

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of the claims in the application:

Listing of Claims:

Claim 1 (currently amended): A transgenic ~~non-human animal~~ mouse, the nucleated ~~having cells of which comprise~~ comprising a transgene encoding a ~~NADPH oxidase enzyme or dual oxidase enzyme~~ NOX 1, wherein the transgene comprises a nucleic acid sequence set forth as SEQ ID NO: 1 or a degenerate variant thereof operatively linked to a promoter, and wherein the mouse exhibits an increased overgrowth of colonic epithelial cells upon exposure to pathogenic bacteria.

Claim 2 (canceled).

Claim 3 (currently amended): The transgenic ~~non-human animal~~ mouse of claim 1, wherein the ~~animal~~ mouse is heterozygous for the transgene.

Claim 4 (currently amended): The transgenic ~~non-human animal~~ mouse of claim 1, wherein the ~~animal~~ mouse is homozygous for the transgene.

Claim 5 (canceled).

Claim 6 (currently amended): The ~~transgenic non-human animal~~ mouse of claim 1,
wherein the transgene comprises SEQ ID NO: 1.

Claims 7-9 (canceled).

Claim 10 (currently amended): The ~~transgenic non-human animal~~ mouse of claim 9 1,
wherein the promoter is a tissue specific promoter is ~~CX1, SV40 early promoter,~~
~~cytomegalovirus promoter, mouse mammary tumor virus steroid inducible promoter or Moloney~~
~~murine leukemia virus.~~

Claim 11 (currently amended): The transgenic ~~non-human animal~~ mouse of claim 9 10,
wherein the tissue-specific promoter is CX1.

Claim 12 (currently amended): The transgenic ~~non-human animal~~ mouse of claim 1,
wherein the transgene comprises ~~is operably linked to~~ a LoxP flox stop cassette.

Claim 13 (currently amended): The transgenic ~~non-human animal~~ mouse of claim 12,
wherein the LoxP flox stop cassette ~~further comprises~~ encodes a marker protein.

Claim 14 (currently amended): The transgenic ~~non-human animal~~ mouse of claim 13,
wherein the marker protein is green enhanced fluorescent protein.

Claim 15 (currently amended): A method for identifying a therapeutic agent for use in treating inflammation or colon cancer, comprising

~~determining a first amount of inflammation in the non-human transgenic animal of claim 1;~~

~~administering an inflammatory compound to the non-human transgenic mouse of claim 1~~
~~animal;~~

administering a test compound to the ~~non-human~~ transgenic ~~animal~~ mouse of claim 1;

exposing the transgenic mouse to a pathogenic bacteria; and

~~measuring a second amount of inflammation in the non-human transgenic animal; and~~
~~comparing the first amount of inflammation with the second amount of inflammation.~~

assessing the amount of inflammation, overgrowth of colonic epithelial cells, or both in the colon of the transgenic mouse;

wherein a decrease in the amount of inflammation, overgrowth of colonic epithelial cells, or both in the transgenic mouse as compared to a control mouse identifies the agent as being of use in treating inflammation or colon cancer.

Claim 16 (currently amended): The method of claim 15, wherein the ~~non-human transgenic animal~~ transgenic mouse is heterozygous for the transgene.

Claim 17 (currently amended): The method claim of 15, wherein the ~~non-human transgenic animal~~ transgenic mouse is homozygous for the transgene.

Claim 18-25 canceled.

Claim 26 (currently amended): A cell or cell line ~~derived~~ isolated from the transgenic mouse ~~non-human animal~~ of claim 1.

Claim 27 (new): The transgenic mouse of claim 1, wherein the mouse is a multiple intestinal neoplasia (Min) mouse.